



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

the Oligocene. The rocks next in order are dacite flows of Oligocene age. The remaining Tertiary history is written in several periods of igneous activity—andesite flows, intrusive latite porphyries, and a basaltic eruption during the Pleistocene.

The total bullion production of the camp since the first discovery of ore in 1896 has been about \$2,000,000, of which approximately 90 per cent has been gold and the remainder silver. The veins are thought to be genetically related to the latite porphyry intrusion and are made up of quartz, chalcedony, opal, calcite, and adularia, carrying inconspicuous amounts of pyrite and possibly gold, in association with antimony, sulphur, and selenium.

Though the deposits at Republic are not altogether like any others known in the United States, they most closely resemble the lodes of the Great Basin province. Their striking feature is the great amount of selenium in the ores, and they are thus best correlated with Tonopah and Goldfield, the only other camps in the United States known to produce selenium ores.

The report closes with a detailed description of the principal mines of the district, of which the New Republic mine is easily the leader.

R. T. C.

---

*Notes on Explosive Mine Gases and Dusts with Special Reference to Explosions in the Monongah, Darr, and Naomi Coal Mines.*

By ROLLIN THOMAS CHAMBERLIN. U.S. Geol. Surv. Bulletin 383.

The results of a series of experiments carried out by the author throw new light on the nature of the explosive material and on the conditions governing explosions in coal mines, and should be of great practical, as well as scientific, value. As soon as possible after the explosions in the mines mentioned, samples of the mine atmosphere were collected and analyzed. Another series of experiments was carried out to determine the probable condition of the gas in the coal, whether (1) imprisoned in minute cavities, (2) occluded or dissolved in the substance of the coal, or (3) the result of slowly operating chemical processes. This was done by studying the rate of liberation of gas (1) from coal bottled in vacuum, (2) from crushing the coal, and (3) from heating the coal. A careful study was also made of the position and nature of the dust in passage-ways and on timbers in the mines after the explosions.

It is concluded that if methane were the sole explosive gas, only local explosions near the face of the coal could result. Coal dust is present, however, in large quantities and can under proper conditions become explosive. The chief restraining agent on dust explosion is dampness, and the presence of a high proportion of non-combustible shale dust. A great reduction of the moisture in mine atmospheres results from the incoming of cold air at the beginning of winter, and it is observed that most of the great explosions have been at that time.

It is a general belief that old dust exposed for a long time to the air is more dangerous than fresh dust, but the author shows by experiment that this belief is erroneous, and that fresh dust is the more explosive.

E. R. L.

---

*Reconnaissance of the Book Cliffs Coal Field between Grand River, Colorado, and Sunnyside, Utah.* By G. B. RICHARDSON. U.S. Geol. Surv. Bulletin 371.

The field forms a part of the south rim of the Uinta basin, around whose margin the outcrops of coal-bearing rocks can be traced for more than five hundred miles. Three formations of Cretaceous rocks are mapped: the Dakota sandstone lying unconformably on Morrison beds, the Mancos shale of Colorado and Montana age, and the Mesaverde formation which is overlain unconformably by Wasatch beds. The Mesaverde is partly marine and partly non-marine, the marine part showing close similarity to the upper Mancos shale and the non-marine to the Laramie. The age is placed as pre-Laramie, the Laramie epoch being supposedly represented by the unconformity above.

Coal of good quality occurs in the lower part of the Mesaverde formation in some localities. Several beds are present, but no single bed has been traced for more than a few miles. The coal of the region is little developed.

E. R. L.

---

*Cenozoic Mammal Horizons of Western North America.* By HENRY FAIRFIELD OSBORN, with *Faunal Lists of the Tertiary Mammalia of the West* by WILLIAM DILLER MATTHEW. U.S. Geol. Surv. Bulletin 361.

This report is primarily a correlation of the mammal-bearing horizons of the Cenozoic with one another and with those of Europe, with a brief characterization of each horizon. In the Tertiary, six faunal phases are